



Indoor Air Quality Monitor

January 2004

 North Dakota Department of Health

Eye on Events

Dakota Superkids Asthma Camp

The American Lung Association of North Dakota (ALAND) will hold its annual Dakota Superkids Asthma Camp June 20 through 25, 2004 at Camp of the Cross, southwest of Garrison, N.D., on Lake Sakakawea. Kids will participate in activities including swimming and hiking and will learn about asthma management. Medical staff will be available at the camp 24 hours a day. For more information or to sign up, call ALAND at 701.223.5613.

Regional Lead Awareness Conference

The North Dakota Department of Health (NDDoH) will hold a regional conference on lead awareness May 4 and 5, 2004, at the Seven Seas Inn and Conference Center in Mandan, N.D. Topics include health effects, risk assessments, regulations, inspections, abatement and elevated blood-lead investigations. Representatives from the Centers for Disease Control, the Environmental Protection Agency, the Center for Medicaid/Medicare Services and others are scheduled to speak. To register or for more information, contact Sandi Washek, NDDoH, at 701.328.5188.

Are You Protected From the Silent Killer?

Carbon monoxide (CO) gas can be deadly. You can't see it, smell it or taste it, but if it is present in a high enough concentration, it can kill you in minutes. Every year, this silent killer claims hundreds of lives.

CO is produced whenever any fuel such as gas, oil, kerosene, wood or charcoal is burned. If appliances that burn fuel are maintained and used properly, exposure to CO can be avoided. However, if appliances are not working properly or are used incorrectly, exposure to dangerous levels of CO can result.

The symptoms of CO poisoning can be mistaken for common flu symptoms, making exposure to CO difficult to identify. Exposure to low levels of CO can cause mild headaches, shortness of breath and nausea. Moderate level exposure can result in severe headaches, dizziness, confusion, severe nausea and fainting.

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Improperly vented furnaces, boilers and water heaters are a common source of indoor carbon monoxide problems.

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People who experience symptoms thought to be from CO poisoning should get fresh air immediately and see a doctor as soon as possible.

Consider the following steps to help prevent CO exposures:

- Have fuel burning appliances regularly inspected by a professional.

- Install and maintain a working CO monitor in your home or shop.
- Vent exhaust from fuel-burning appliances to the outside whenever possible.
- Read and follow the manufacturers' instructions for use of all fuel burning appliances.
- Do not let cars idle in a garage.

- Do not use a gas oven for room heat.
- Do not use a charcoal grill indoors.
- Avoid using gas-powered engines in enclosed spaces.

For more information about carbon monoxide, contact Jesse Green, North Dakota Department of Health, at 701.328.5188 or visit www.epa.gov/iaq/co.html.

Updated EPA Radon Risk Assessment

The issue of radon levels in homes is one that concerns many people. For years, the North Dakota Department of Health has urged homeowners to test their residences for radon and has offered suggestions for ways to lower radon levels. Recently, national studies have highlighted the dangers posed by radon in the home.



In 1999, the National Academy of Sciences (NAS) published its Biological Effects of Ionizing Radiations (BEIR) VI report, *Health Effects of Exposure to Radon*. Based on the report, smoking is classified as the leading cause of lung cancer, and radon is the second leading cause. The NAS findings were based primarily on a study of several groups of underground miners exposed to radon.

In the BEIR VI report, the NAS projected that between 15,400 and 21,800 lung cancer deaths each year are related to radon. In addition, the report stated that the risk from radon increases the longer someone is exposed.

The report further indicated that radon exposure accounts for about one in four (26%) lung cancer deaths among people who have never smoked, compared to about one in eight (12%) among people who have smoked. However, since people who have smoked have a much higher baseline lung cancer rate than people who have never smoked, the risk of lung cancer from radon is much higher for people who have smoked. The effects of radon exposure and cigarette smoking are synergistic, meaning that smokers are at an increased risk for lung cancer due to radon exposure than are nonsmokers.

In June 2003, the U.S. Environmental Protection Agency (EPA) published an update to its assessment of risks from indoor radon. The EPA used the BEIR VI study to complete the update.

The EPA's analysis considered additional factors, such as:

- Physical differences between underground mines and homes.
- Differences in the presence of other carcinogens in mines versus homes.
- Differences in the higher exposure rates in mines than in homes.

The EPA estimates that out of the 157,400 lung cancer deaths in 1995, 21,100 (13.4%) were related to radon.

To access the EPA report, visit www.epa.gov/radiation/docs/assessment/radon_in_homes.pdf. For more information, contact Jesse Green, North Dakota Department of Health, at 701.328.5188 or visit www.epa.gov/radon.

IAQ Colleague



Larry Dauphinais, REHS, Indian Health Service, and his new granddaughter Paige.

This issue's colleague is Larry Dauphinais, district sanitarian for Indian Health Service (IHS) in Minot, ND.

Larry, whose Native American name is Misko Ginew (Red Eagle), is a member of Turtle Mountain Band of Ojibwa/Chippewa tribe. He works closely with the Ojibwa or Chippewa tribe from the Turtle Mountain Reservation; the Lakota or Sioux tribe from the Standing Rock Reservation; the Dakota or Sioux tribe from the Spirit Lake Reservation; the Mandan, Hidatsa and Arikara tribes from the Fort Berthold Reservation and the Ojibwa or Chippewa tribe from Trenton Indian Service Area.

Larry has 21 years of experience in environmental health. He has worked for First District Health Unit in Minot, N.D. as well as for the Indian Health Service on reservations in Arizona and Oregon.

Injury prevention is a big part of Larry's job.

"Statistics show that, for Native Americans, injuries and fatalities occur at about two to three times state and national rates," Larry said.

Larry hopes to foster increased partnership between Native Americans and local and state health agencies to provide the best possible public health to all citizens of North Dakota.

Internet Insights ...

The website www.homemoisture.org has extensive information related to indoor air quality issues, indoor mold growth and moisture problems, coping with disasters, and general building information. The website is produced and managed by Dr. Ken Hellevang, engineering professor for North Dakota State University Extension Services.

Tool Talk: Indoor Air Quality Equipment Review

This issue of tool talk will focus on the home carbon monoxide alarm. The carbon monoxide alarm is an important indoor air quality tool that every home should have.

A by-product of incomplete combustion, carbon monoxide potentially could become a deadly problem in any home. Most carbon monoxide-related injuries and deaths are home-heat related. In winter months as people run their furnaces to keep their homes warm, carbon monoxide deaths escalate.

Because carbon monoxide gas is undetectable through sight, smell or our other senses, a monitor with an alarm is essential to detecting the gas in homes and alerting occupants to the danger when it exists.

There are many brands and features from which to choose, allowing each homeowner to select the alarm that will best meet his or her needs. Here are some of the more common features consumers should be aware of:

- Some alarms can be plugged into a regular AC wall outlet, some are battery powered and some are AC powered with battery backup.



Battery operated carbon monoxide alarm



Two examples of carbon monoxide alarms powered by AC current from a wall outlet



Combination carbon monoxide and smoke detector with voice and alarm warnings

- Some alarms are combined with other monitoring devices such as a smoke detector or an explosive gas monitor.
- Some alarms have digital readouts that display the level of carbon monoxide at any time, while others only sound when dangerous levels are reached.
- Some alarms store a peak level to alert home owners of the highest recorded level of carbon monoxide that has occurred.
- Some home security systems can detect gases.



Combination carbon monoxide and explosive gas alarm with digital readout



Carbon monoxide alarm with digital readout and peak level memory

- Other features might include a low battery warning or voice capabilities.

Consumer information comparing alarm prices and features can be found at www.consumerguide.com or in the October 2001 issue of *Consumer Reports* magazine at your local library. Alarms typically can be purchased at most hardware or department stores.

The Consumer Product Safety Commission, the U.S. EPA and the North Dakota Department of Health recommend that every home be equipped with a working CO alarm.

The recommended location within a home where a carbon monoxide alarm should be placed varies depending on the source of information. The following issues should be considered when deciding where to place a carbon monoxide alarm:

1. Place the alarm where it will be heard. An alarm that is placed where it is unlikely to be heard is of limited usefulness.
2. Place the alarm in an area where it will not be forgotten about. It is important to check your alarm from time to time to ensure continued operation. You may need to replace the battery or the alarm if it ceases to function properly.
3. Consider the location of combustion sources when placing a carbon monoxide alarm. An alarm placed closer to a source may alert you sooner than one placed farther from the source.

For more information about carbon monoxide, contact Jesse Green, North Dakota Department of Health, at 701.328.5188 or visit www.epa.gov/iaq/co.html online.

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Questions? Comments? Suggestions? Something to add to the next issue? Call Jesse Green at 701.328.5188